REMARKS:

Claims 1-21 are pending in this application.

Claims 1-21 stand rejected.

Claims 1, and 9 have been amended. It is believed that no new matter has been added by these amendments.

35 U.S.C. §112

Claims 1-21 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Specifically

a) The Examiner asserts that R_3 is not defined. "R_3" is common chemical usage meaning three R groups, in the same manner that O_2 is the symbol for two oxygen atoms. "R" in organic chemistry is well known to stand for a carbon-containing group. Claim 1 then defines those R groups by the phrase "each R may be the same or different and is a substituted or unsubstituted aryl or heteroaryl group." Applicant has amended claims 1 to now cite "triarylsilyl(meth)acrylate groups (-$XSiR_3$)" and claim 9 to now cite "triarylsilyl(meth)acrylate ($XSiR_3$)" to make the claim even clearer. This amendment is supported by disclosure in [0017], and the common meaning of the symbols $XsiR_3$ as defined in claims 1 and 9. Applicant believes that claims 1 and 9 and the claims depending from them are clear and definite to one of skill in the art.

b) The phrase "where A is present from above 9 to 20 mole percent" is not clear and concise, as the phrase does not describe any whole molar measurements upon which to base the partial molar percents. Applicant has amended claim 1 to cite "based on the total molar amount of monomers used to make the polymer(s) comprising the marine antifouling paint". This amendment is supported by original disclosure in [00118].

c) The claims recite the limitation "R" in the description of the polymer of formula –[A]-[B]-. [A] is said to comprise $XSiR_3$. Claim 1 provides no recitation of an R substituent. As pointed out in remark (a) above, "R_3" is common chemical nomenclature for three R groups. In claim 1 Applicant even indicates that "each R can be the same or different". One of skill in the art would recognize that "R_3" stands for three "R" groups. Thus when

the dependent claims cite "at least one R" there is sufficient antecedent basis for an "R", and the claim is clear and concise as required by 35 U.S.C. § 112(a).

35 U.S.C. §102(b)

Claims 1-21 stand rejected under 35 U.S.C. §102(b) as being anticipated by Gitlitz et al, U.S. Patent Number 4,593,055. The Gitlitz reference fails to teach every element of Applicant's claims, and therefore fails to present a *prima facia* case of anticipation. Specifically, the '055 reference fails to teach any aryl group other than phenyl, and further fails to teach that a copolymer containing 9 to 20 mole percent of triarylsilyl(meth)acrylol groups can be used in a marine antifouling paint and have an erosion rate in seawater of from 2 to 15 microns per month..

The Gitlitz reference describes the use of alkyl or phenyl silyl (meth) acrylates as binders for erodible ship-bottom paints. There is no teaching or suggestion of any aryl group other than phenyl, and therefore the Gitlitz reference fails to teach other aryl groups, heteroaryl groups, and substituted aryl or heteroaryl groups, as claimed by Applicant.

The Gitlitz reference fails to teach that "the triarylsilyl(meth)acrylate component is present at surprisingly low levels" as stated in [0016] of the Specification. While the Gitlitz reference does teach a triphenylsilyl acrylate (claim 3) and also teaches that the organosilyl moiety can be present at from 10 to 80 parts on a mole basis, and preferably 25 to 40 parts per mole (Claims 7 and 8), there is no teaching linking any specific triarylsilyl(meth)acrylate with a mole percentage in the 9 to about 20 mole percent range. Given the wide range of organosilyl moieties mentioned in the '055 reference, and the wide range of mole percentages in which these generalized organosilyl moieties may be used, there is no link to teach that a triarylsilyl(meth)acrylate could or should be used only at the low level of the range. Indeed, since no triarylsilyl(meth)acrylate is exemplified, plus even the exemplified organosilyl moieties are used at 20 to 40 mole percent, plus the '055 reference teaches a preferred range of 25 to 40 mole percent, one in the art would find no anticipation in the '055 reference of a limitation linking a triarylsilyl(meth)acrylate and a mole percentage range of 9 to about 20 mole percent.

Finally, Applicant claims that the polymer is characterized by an erosion rate in seawater of from 2 to 15 microns per month. The '055 reference is silent on erosion rate, other than to

incorporate references US 4,021,392 and US 4,260,535. These references refer to tri-organotin binders rather than organosilyl(meth)acrylate binders. The '392 reference does not describe any preferred erosion rate, but does describe in column 2, lines 33-48 that the top coat paint of the invention was given a 50 micron roughness and was smooth within a month on a rotor test. This does not support Applicant's claim requiring an erosion of 2 to 15 microns per month. The '535 patent describes an invention in which an auxiliary binder is used. The marine coating itself is shown in Figure 1 (described in column 5, lines 10-16) and has an erosion rate of 0.7 microns a day – or 21 microns a month – again teaching outside of Applicant's 2-15 microns a month.

35 U.S.C. §103(a)

Claims 1-21 stand rejected under 35 U.S.C.§103(a) as being unpatentable over Gitlitz et al. U.S. Patent Number 4,593,055. The Gitlitz reference fails to teach or suggest every claim limitation of Applicant's claims as amended, and therefore fails to present a *prima facie* case of obviousness. Specifically, the '055 reference fails to teach or suggest any aryl group other than phenyl, and further fails to teach or suggest that a copolymer containing 9 to about 20 mole percent of triarylsilyl(meth)acrylol groups can be used in a marine antifouling paint and have an erosion rate in seawater of from 2 to 15 microns per month. Additionally the '055 reference teaches away from Applicant's claims by exemplifying only polymers having 20 percent or more of organosilyl groups.

For the reasons stated above, the '055 reference does not teaching or suggest the use of any aryl group other than phenyl. It does not teach or suggest that the aryl can be any other aryl groups, heteroaryl groups, and substituted aryl or heteroaryl groups, as claimed by Applicant.

While Applicant's claimed 9 to about 20 mole percent of triarylsilyl(meth)acrylol groups does overlap the 10 to 80 mole percent range of the '055 reference, there is no teaching or suggestion in the '055 reference that triphenylsilylacrylate (the only composition overlapping Applicant's claimed composition) should or could be effective at the low usage rate of 9 to about 20 mole percent. The '055 reference teaches many different compositions, then separately teaches a 10-80, and preferably 25-40 mole percent level, however there is no link of specific compositions to specific mole percentages.

Since there is no link taught or suggested between mole percent and composition, these are

not taught or suggested as related result-effective variables. Since only result-effective variables can be optimized by routine experimentation, there is no motivation for one in the art from the '055 reference to select Applicant's triarylsilyl(meth)acrylol at 9 to about 20 mole percent to form a marine antifouling paint. In fact, the '055 reference teaches away from any low level by exemplifying only higher levels, and claiming 25-40 mole percent organosilyl moiety as the ideal formulation.

Finally, the '055 reference fails to teach or suggest a polymer that is characterized by an erosion rate in seawater of from 2 to 15 microns per month, as explained above. The reference to the two US patents showing higher levels of erosion rates further teaches away from Applicant's claimed polymer having a low erosion rate.

In view of the above, the Applicant believes that the reasons for rejection have been overcome, and the claims, as amended herein, should be allowable to the Applicant. Accordingly, reconsideration and allowance are requested.

Respectfully submitted,

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Thomas F. Roland, Esq.
Attorney for the Applicants
Reg. No. 42,110

Arkema Inc.
Patent Department - 26th Floor
2000 Market Street
Philadelphia, PA 19103-3222
Tel (215) 419-7314
Fax (215) 419-7075